

CLAIMS

What is Claimed is:

- 5 1. A method for detecting an evoked response in a cardiac stimulation device implanted in a patient, the device having an evoked response detection algorithm, the method comprising:
- receiving one or more signals from a sensor;
- processing the one or more signals to determine a patient
- 10 state; and
- modifying the evoked response detection algorithm based on the detected patient state.
2. The method of claim 1, wherein the evoked response
- 15 detection algorithm is modified by calibrating the algorithm using one or more parameter values pertaining to the detected patient state.
3. The method of claim 1, wherein the evoked response
- 20 detection algorithm is modified by selecting one or more parameter values based on the detected patient state.
4. The method of claim 2, further comprising:
- providing a first set of parameter values that correspond
- with a first patient state;
- 25 providing a second set of parameter values that correspond
- with a second patient state; and
- modifying the set of parameter values to the first set or the second set based on the detected patient state.

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5. The method of claim 1, further comprising:
disabling the automatic capture detection function if the
patient state is unstable.

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6. An implantable cardiac device comprising:
a memory configured to store plural sets of parameter
values corresponding to various patient states;
a sensor that is operative to generate one or more signals
indicative of a patient state; and
a controller that is operative to receive the one or more
signals from the sensor, process the one or more signals to
determine the patient state, and use the corresponding set of
parameter values to process sensed electrical activity.

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7. The system of claim 6, wherein the control circuitry is
configured to modify the evoked response detection algorithm by:
retrieving a position set comprising a plurality of parameter
values pertaining to the orientation of the patient; and
calibrating the evoked response detection algorithm using
the position set of parameter values.

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8. The system of claim 7, wherein the control circuitry is
configured to calibrate the evoked response detection algorithm by:
replacing the position set of parameter values with a new
position set of parameter values in the evoked response detection
algorithm; and

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employing the new operating set in the evoked response
detection algorithm.

9. The system of claim 7, wherein the control circuitry is further
5 configured to:

establish a first setting for the position set of parameter
values when the patient is vertically oriented;

establish a second setting for the position set of parameter
values when the patient is horizontally oriented; and

10 modify the set of parameter values to the first setting or the
second setting based on the orientation of the patient.

10. The system of claim 6, wherein the control circuitry is further
configured to disable the automatic capture detection function to prevent
15 false loss of capture detection when the signal indicates that the
orientation of the patient is changing.

11. A method for modifying a detection algorithm implemented
by an implantable stimulation device, comprising:
20 receiving one or more signals indicative of a patient state;
processing the one or more signals to determine the patient
state; and
modifying the detection algorithm based on the determined
patient state.

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12. The method of claim 11, wherein receiving one or more
signals comprises receiving one or more position signals.

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13. The method of claim 11, wherein receiving one or more signals comprises receiving one or more activity signals.

5 14. The method of claim 11, wherein receiving one or more signals comprises receiving one or more position signals and one or more activity signals.

10 15. The method of claim 11, further comprising providing plural sets of parameter values corresponding to various patient states, and wherein modifying the detection algorithm further comprises using the corresponding set of parameter values based on the determined patient state.

15 16. An implantable cardiac device comprising:
a sensor that is operative to generate one or more signals indicative of a patient state; and
a controller that is in communication with the sensor, the controller being programmed to apply a detection algorithm to
20 received electrical activity signals, wherein the controller is operative to receive the one or more signals from the sensor, process the one or more signals to determine the patient state, and adjust one or more parameter values of the detection algorithm based on the determined patient state.

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17. The implantable cardiac device of claim 16, wherein the sensor comprises a position sensor.

5 18. The implantable cardiac device of claim 16, wherein the sensor comprises an activity sensor.

10 19. The implantable cardiac device of claim 16, wherein the sensor comprises a position sensor, and further comprising an activity sensor that is operative to generate one or more signals indicative of an activity level of the patient.

15 20. The implantable cardiac device of claim 16, wherein the controller is operative to maintain a plurality of sets of parameter values corresponding to the respective patient states, and wherein the controller adjusts the detection algorithm by using one of the sets of parameter values based on the detected patient state.

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